

REMARKS

Claims 20-26 are pending in the present application. Claims 27-30 have been added. Reconsideration of the claims in light of the arguments presented is respectfully requested.

35 U.S.C. § 102, Anticipation

Claims 20-23 have been rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent 5,821,572 to Walker et al., hereinafter Walker. This rejection is respectfully traversed.

Representative Claim 20 reads,

20. (Original): A method of making an electrostatic discharge semiconductor device on a semiconductor substrate having a first conductivity type and a first doping concentration, comprising:
implanting into the substrate first, second, and third well regions having second conductivity types that are opposite in polarity to said first conductivity type;
implanting a fourth well region of the first conductivity type adjacent to said substrate and adjacent to said first well region; and
forming an insulated terminal across said second and said third well regions.

The rejection states,

Walker et al discloses a method of making an ESD, comprising:
- implanting first, second, and third well regions 308, 312, 314 (having a second conductivity type and a second doping concentration, "N+" into a substrate 300 (having a first conductivity type and a first doping concentration, "P-" [Fig. 6C]
- implanting into the substrate a fourth well region 310 adjacent to the first well region and a fifth well region (the rightmost region P+), wherein the fourth and fifth well regions have a first conductivity type and the second doping concentration "P+" [col. 6]
- forming insulated terminals 318, 320, 322 above the first, second and third well regions [Fig 6D]¹

It is respectfully submitted that the rejection has misrepresented the doping of one of the regions listed, specifically that of region 314. This error is understandable, as Figure 6D, which is reproduced as the cover drawing, makes the same mistake (although Figure 6C has the doping correct); however, both the description of the drawing and the abstract of Walker make clear that this region is P+, not N+, as is asserted above. Walker states,

¹ Office action of 05/06/2004, item 2, underlining added

With reference now to FIGS. 6A-6D, cross-sections illustrating a process for fabricating a BICMOS SCR and zener diode connections are depicted according to the present invention. Substrate 300 in FIG. 6A has an N-well 302 implanted within it. Field oxide regions 304 are then defined and grown. Thereafter, p-based region 306 is implanted within N-well 302 as illustrated in FIG. 6B. Next, n+ doped region 308 and p+ doped region 310 are implanted into N-well 302. Additionally, n+ doped region 312 and p+ doped region 314 are implanted into p-base 306 in FIG. 6C. Thereafter, in FIG. 6D, dielectric 316 is deposited and etched and contacts 318-324 are formed from metal I. Contact 318 forms a contact for the emitter n-base of the PNP transistor. Contact 320 is for the emitter of the NPN transistor, while contact 322 is for the base of the NPN transistor. Contact 324 forms a connection to the p+ substrate.²

It is respectfully urged that the rejection of claims 20-23 have been overcome, since each and every limitation of the claims is not shown by the single reference. Therefore, the rejection of claims 20-23 under 35 U.S.C. § 102 has been overcome.

Furthermore, Walker does not teach, suggest, or give any incentive to make the needed changes to reach the presently claimed invention. While Walker does suggest that the circuit can be implemented in an N-type substrate by changing the dopant type of all the doped regions, there is no suggestion to change the doping of only one region. Absent the examiner pointing out some teaching or incentive to implement this single change of doping type in Walker, one of ordinary skill in the art would not be led to modify Walker to reach the present invention when the reference is examined as a whole.

Objection to Claims

The examiner has stated that claims 24-26 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Since claims 24-26 depend from claim 20, the same distinctions between Walker and the claimed invention in claim 20 applies to these claims. Additionally, claims 24-26 claim other additional combinations of features not suggested by the reference, as noted by the examiner in his objection to these claims.

² Walker et al., column 6, lines 29-46, underlining added

New Claims

It is submitted that the new claims include the limitations of claim 20 and thus inherit the allow ability of this claim. The new claims provide more of a picture claim of the invention.

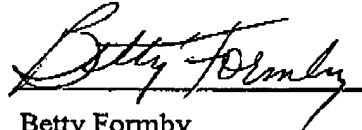
Conclusion

It is respectfully urged that the subject application is patentable over Walker and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,



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